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178. Proposed by V. M. SPUNAR, Mechanical and Civil Engineer, East Pittsburg, Pa.

Find the sum of the series, $\frac{\sin x}{m^2+1} - \frac{2\sin 2x}{m^2+4} + \frac{3\sin 3x}{m^2+9} - \dots$ to infinity.

Solution by G. B. M. ZERR, Ph. D.

From the general equation in Fourier's Series, we at once derive

$$\begin{aligned} \frac{\pi}{2} \sin nx &= \sin x \int_0^\pi \sin nx \sin x \, dx + \sin 2x \int_0^\pi \sin nx \sin 2x \, dx \\ &\quad + \sin 3x \int_0^\pi \sin nx \sin 3x \, dx + \dots \end{aligned}$$

But $\int_0^\pi \sin nx \sin rx \, dx = \pm \frac{r \sin n \pi}{r^2 - n^2}$, according as r is odd or even.

$$\therefore \frac{\pi \sin nx}{2 \sin n \pi} = \frac{\sin x}{1-n^2} - \frac{2\sin 2x}{4-n^2} + \frac{3\sin 3x}{9-n^2} - \dots$$

Let $n = m\sqrt{-1}$.

$$\therefore \frac{\sin x}{m^2+1} - \frac{2\sin 2x}{m^2+4} + \frac{3\sin 3x}{m^2+9} - \dots = \frac{\pi \sinh mx}{2 \sinh m \pi} = \frac{\pi}{2} \cdot \frac{e^{mx} - e^{-mx}}{e^{m\pi} - e^{-m\pi}}.$$

NOTES AND NEWS.

Professor Jose A. Caparo, of Notre Dame University, Notre Dame, Indiana, has been given a year's leave of absence, and will spend most of his time in Cuzco, Peru, South America. F.

Before leaving for California, Editor Slaughter was called to New York State by his Alma Mater, Colgate University, to receive the honorary degree of Doctor of Science. He graduated there in 1883, and has been engaged in educational work ever since. The degree of Doctor of Philosophy was conferred upon him by the University of Chicago, in 1898, in which institution he is now an Associate Professor of Mathematics. He is the author, in collaboration with Dr. Lennes, of Columbia University, of a series of text books in mathematics for secondary schools, which are being very extensively adopted throughout the country. We congratulate Dr. Slaughter on the honor conferred upon him by his Alma Mater. F.

Editor Slaughter is in California attending the meeting of the National Education Association as the representative of the University of Chicago. He will present the report of the National Committee of Fifteen on Geometry at the meeting of the Secondary Department. This committee has been working for two years under the joint auspices of the National Education Association and the American Federation of the Physical and Mathematical Sciences. The report in provisional form was published in the April, May, and June issues of *School Science and Mathematics* and was distributed in the form of reprints to two hundred selected critics for further suggestions and criticisms before the final presentation at San Francisco. The report contains a valuable historical introduction by Professor Florian Cajori, which was initially published in *THE MONTHLY* for November, 1910. Then follow sections on logical considerations, special courses in geometry, exercises and problems, and finally the syllabus itself, which sets forth a scheme for emphasizing the great basal theorems of geometry, in comparison with those of subsidiary importance, by means of various styles of type. ED. F.

The following doctors and candidates for the doctorate in mathematics from the University of Chicago, have been appointed to positions for 1911-1912, as indicated below:

Professor F. L. Griffin, 1907, of Williams College, to the professorship of mathematics at Reed Institute, Portland, Oregon.

Dr. H. E. Buchanon, 1909, of the University of Wisconsin, to the professorship of mathematics at Carleton College, Northfield, Minnesota.

Dr. E. J. Miles, 1910, of Cornell University, to an instructorship in mathematics at Yale University.

Dr. Anna J. Pell, 1910, to an instructorship in mathematics at Mt. Holyoke College.

Mr. Lloyd Dines to an instructorship in mathematics at Columbia University.

Dr. D. Buchanon, 1911, to an assistant professorship in mathematics at Queen's University, Kingston, Ontario.

Mr. R. E. Root to an instructorship in mathematics at the University of Missouri.

Messrs. Dines, and Root are finishing their work during the present summer quarter. S.